A.D. COMPOUND S.p.a.
Plastic Material Processing

NOVEL TECHNOLOGY:

RECYCLED POLYPROPYLENE (r-PP)

DECONTAMINATION PROCESS FOR FOOD GRADE COMPOUND PRODUCTION AND APPLICATION

Summary

ARTICLE 10.1

Developer

A.D. Compound S.p.A

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ARTICLE 10.2

A.D. Compound S.p.A

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Territory Competent Authority:

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Commission:

Directorate-General fot Health and Foot Safety (DG SANTE)
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Novel Technology summary – "Recycled Polypropylene (r-PP) Decontamination Technology"

A.D. Compound notifies the novel technology "Recycled Polypropylene (r-PP) Decontamination Technology as "developer" under the Regulation 2022/1616. Recyclers using A.D. Compound Novel technology will produce compound of decontaminated r-PP suitable to be used up to 50% in food applications in direct contact with food, as virgin material. Polypropylene is a well-suited material for mechanical recycling, however PP recycled in food contact applications is not yet possible, mainly due to lack of availability of processes able to fulfil the EFSA requirements for recycled plastics in direct food contact. The A.D. Compound novel Decontamination Technology, thanks to a proprietary special design of some items and properly managing process parameters, as temperature, pressure for stripping and filtering, can clean efficiently recycled Polypropylene (r-PP) and so to reduce all contaminants below the target level required for direct food application. The input material consists of PP scrap collected by qualified suppliers in accordance with GMP requirements and transported to AD Compound. The novel technology has been proven by extensive decontamination tests on TR5 production line. The recycling process includes the following steps:

1. *Acceptance of Raw materials*: each incoming batch undergoes documentary verification and visual inspection
2. *Pre-treatment and Input* Raw materials undergo a preparatory phase
3. ***Extrusion and Decontamination*: Extrusion and decontamination of the polymer melt (Novel Technology based on A.D. Compound proprietary design)**
4. *Pelletizing and Storage*: the decontaminated polymer is cut into granules and stored
5. *Validation and Output*: Before commercial release a representative sample is sent to be tested for chemical compliance according to Reg.10/2011, Reg.2022/1616 and Reg.1935/2004.

1. FOREWORDS

A.D. Compound notifies the novel technology "**Recycled Recycled Polypropylene (r-PP) Decontamination Technology**" as "developer" under the Regulation 2022/1616. Recyclers using A.D. Compound Novel technology will produce compound of decontaminated r-PP suitable to be used up to 50% in food applications in direct contact with food, as virgin material.
The **process parameters, design of equipment** and **process scheme** form part of A.D. Compound intellectual property, therefore, they should be kept **confidential**.

This document has been written following the requirements for the development of a novel technology as reported in Regulation 2022/1616 with reference to Article 10.

A.D. Compound points out that the present document contains confidential information owned by A.D. Compound. These information must be not disclosed and they are included between marked sentences.

2. CHARACTERIZATION OF THE NOVEL TECHNOLOGY (ART. 10.3.A)

The company AD Compound S.p.A. has developed a new mechanical recycling technology for polypropylene intended for food-contact applications. The technology is based on the recycling of polypropylene obtained from industrial scraps of food-contact PP compliant with Regulation (EU) No 10/2011, which have never come into contact with food. The scraps are collected by qualified suppliers in accordance with GMP requirements and transported to AD Compound. The material is supplied to the company in the form of film scraps, either as flakes or regranulated film.

Plastic waste arrives at AD Compound and is pre-processed through quality assurance systems that are certified by a third party.

Upon arrival, each batch is assigned a unique identification number linked to the supplier's original order in order to ensure traceabilty. The material is then sampled, internally analysed, labelled, and stored in the warehouse.

When required for production, the recycled plastic film is shredded and fed into the TR5 decontamination unit, where the process is driven primarily by temperature and pressure to remove contaminants. This ensures that the recycled material meets stringent hygiene and safety requirements.

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After decontamination, the compound is sampled again and sent to an accredited external laboratory for chemical analysis, with particular focus on the identification of any substances that are restricted or prohibited under food-contact regulations.

Only when the produced batch compliance has been confirmed with applicable requirements the compound could be released for shipment to the converter, who will use it for the production of finished articles intended for food-contact applications.

The final pellets contain up to 50% recycled polypropylene (rPP), while the remaining 50% may consist of a blend of virgin PP and other food-contact additives or masterbatch, in order to produce tailor-made pellets for each client's specific requirements. The final pellets are sent to converters for the potential production of bowls, trays, and kitchenware intended for short-term and repeated use.

Results of the challenge test demonstrated the capability of the process to decontaminate the incoming raw material. In addition, analyses of input samples and the corresponding output samples containing 50% recycled material and 50% virgin material have been performed in order to identify potential contaminants. Theoretical calculations based on the substances detected in the output were performed to assess hypothetical migration into food. The migration values were calculated on hypothetic grammage, and the results did not show critical issue regarding the safety of the consumer health. Based on these considerations, and depending on the final intended use of the finished article, the compliance will be assessed in accordance with Regulation (EC) No. 1935/2004 (in particular Article 3), Regulation (EC) No. 2023/2006 (GMP), Regulation (EU) No. 10/2011 and Regulation (EU) No. 2022/1616 (if applicable).

At present, AD Compound is not aware of other recycling processes applying the same or a comparable technology for polypropylene intended for food-contact applications. For this reason, the company is submitting this notification so that the competent authority may evaluate whether authorization of the recycling process is required for this type of process and clarify the criteria applicable to this novel technology.

3. SCIENTIFIC EVIDENCE AND STUDIES ABOUT THE DECONTAMINATION TECHNOLOGY (ART. 10.3.C)

To assess the decontamination efficiency of the proposed novel technology, data were obtained from a challenge test conducted with polypropylene intended for food-contact applications but not yet used for food. The test involved the deliberate contamination of polypropylene flakes (290 kg) and regranulated material (710 kg) with a mixture of selected surrogate contaminants representing a range of chemical and physical properties, including polar and non-polar substances, volatile and non-volatile compounds.

The contaminated samples were mixed and held under agitation for 14 days to ensure uniform distribution of the contaminants. Subsequently, the contaminated samples were decontaminated during the extrusion and pellet production process, using the operational parameters of the TR5 decontamination unit.

Name of the substance	CAS Number	Quantity added to flakes (mg/kg)	Quantity added to the regranulated (mg/kg)
Toluene	108-88-3	1448	495
Chlorobenzene	108-90-7	1429	537
Methyl Salicylate	119-36-8	1451	511
Phenylcyclohexane	827-85-1	1456	504
Benzophenone	119-61-9	1491	510
Methyl Stearate	112-61-8	1424	501

To verify the decontamination efficiency of the process, analyses were performed on both the contaminated input samples and the final pellets. The results demonstrated that the technology is capable of effectively removing the contaminants, as shown below.

Contamination of extrudate (flakes/regrind)						
	Day 0	Day 20		Day 20		
Name of the substance	Recalculated added amount (mg/kg)	Total amount detected in film+ regrind before extrusion (mg/kg)	Amount absorbed (%)	Amount detected in extrudate (mg/kg)	Amount absorbed by the extrudate (%)	Decontamination efficiency of the extrusion process (%)
Toluene	772	43,5	5,64	1,62	3,72	96,3
Chlorobenzene	795	68,2	8,57	5,82	8,53	91,5
Methyl Salicylate	784	265	33,8	46,9	17,67	82,3
Phenylcyclohexane	780	374	47,9	45,9	12,29	87,7
Benzophenone	795	573	72,1	53,4	9,32	90,7
Methyl Stearate	769	620	80,6	54,6	8,82	91,2

Moreover, AD Compound analysed input samples and the corresponding output samples containing 50% recycled material and 50% virgin material. The test performed are:

- Semi-quantitative determination of volatile substances through screening tests
- Semi-quantitative determination of semi-volatile substances
- Semi-quantitative determination of non-volatile substances through screening tests
- Quantitative determination of heavy metals

The analytical equipment is usually composed by:

- Headspace-GC/Ms (Gas Chromatography with Mass Spectrometry) for analysis of volatile substances (Sample thermostatation: 25min a 125°C).
- GC/MS after solvent extraction of the sample for semi volatile substances (GC/MS analysis after solvent extraction: hexane extraction of the sample for 1h in ultrasonic bath and for 16h at room temperature).
- LC-QTOF-MS (Liquid Chromatography with Mass Spectroscopy with QTOF detector) analysis after solvent extraction of the sample for semi volatile and non volatile substances (Acetonitrile extraction of the sample for 1h at 60°C).
- ICP-MS analysis after acid mineralization of the sample for heavy metal

Results of the challenge test demonstrated the capability of the process to decontaminate the incoming raw material. In addition, analyses of input samples and the corresponding output samples containing 50% recycled material and 50% virgin material have been performed in order to identify potential contaminants. Theoretical calculations based on the substances detected in the output were performed to assess hypothetical migration into food. The migration values were calculated on hypothetic grammage, and the results did not show critical issue regarding the safety of the consumer health.

Table 1: Results of the organic screening tests (INPUT)

Name of the substance	CAS Number	Amount (mg/kg)
Phenol, 2,4-bis(1,1-dimethylethyl)-, phosphite (3:1)	31570-04-4	708
trans-13-Docosenamide	10436-09-6	425
Tris(2,4-di-tert-butylphenyl) phosphate	95906-11-9	369
Hydrocarbons	-	364
Tris(2,4-di-tert-butylphenyl)phosphate	95906-11-9	56,4
Palmitic acid	57-10-3	46,8
Erucamide	112-84-5	43,1
phosphorous acid, tris(2,4-di-tert- butylphenyl)ester	31570-04-4	40,9
Stearic acid	57-11-4	28,6
1-Octanol, 2-butyl-	3913-02-8	21,7
n-Hexadecanoic acid	57-10-3	17,6
Octadecanoic acid	57-11-4	13,3
Oleanitrile	112-91-4	12,6
cis-13,16-Docasadienoic acid	7370-49-2	12,5
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, octadecyl ester	2082-79-3	11,5
1-Decanol, 2-hexyl-	110225-00-8	10,5
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	10,1
cis-11-Eicosenamide	10436-08-5	9,06
2,4-Di-tert-butylphenol	96-76-4	8,85
13-Docosenamide, (Z)-	112-84-5	7,57
1-Decanol, 2-methyl-	18675-24-6	6,78
cis-15-tetracosenamide	-	5,09
Behenamide	3061-75-4	4,68
13,16-Docosadienamide	-	4,11
Erucic acid	112-86-7	3,36
Pentaerythritol tetrakis[3-(3,5-di- tert-butyl-4-hydroxyphenyl)- propionate]	6683-19-8	2,96
9H-Fluorene, 9,9-dimethyl-	4569-45-3	2,9
2-Decyl-1-tetradecanol	58670-89-6	2,39
Tributyl acetylcitrate	77-90-7	2,17
2-Propanol, 2-methyl-	75-65-0	1,43
Oleamide	301-02-0	1,41
1H-Imidazole, 4,5-dihydro-2-(phenylmethyl)-	59-98-3	1,27
N-cis-11,14-eicosadienoyl ethanolamine	162758-92-1	1,14
Unknown (m/z: 457; 472)		1,13
7,9-Di-tert-butyl-1-oxaspiro(4,5)deca-6,9-diene-2,8-dione	82304-66-3	1,05
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, methyl ester	6386-38-5	0,943
Nonanal	124-19-6	0,646
Phenol, 2,4,6-tris(1-methylethyl)-	2934-07-8	0,51
Propane, 2-ethoxy-2-methyl-	637-92-3	0,27
Furan, 2-methoxy-	25414-22-6	0,216

Table 2: Results of the metals screening tests (INPUT)

Name of the substance	Amount (mg/kg)
Alluminio (Al) (mg/kg)	82,6
Antimonio (Sb) (mg/kg)	<0.1
Argento (Ag) (mg/kg)	<1
Arsenico (As) (mg/kg)	<0.1
Bario (Ba) (mg/kg)	<1
Berillio (Be) (mg/kg)	<0.1
Boro (B) (mg/kg)	<17
Cadmio (Cd) (mg/kg)	<0.1
Cobalto (Co) (mg/kg)	<1
Cromo (Cr) (mg/kg)	3,5
Ferro (Fe) (mg/kg)	17,4
Litio (Li) (mg/kg)	<1
Manganese (Mn) (mg/kg)	<1
Mercurio (Hg) (mg/kg)	<0.05
Molibdeno (Mo) (mg/kg)	<1
Nichel (Ni) (mg/kg)	1,39
Piombo (Pb) (mg/kg)	0,12
Rame (Cu) (mg/kg)	<1
Selenio (Se) (mg/kg)	<0.1
Stagno (Sn) (mg/kg)	0,206
Stronzio (Sr) (mg/kg)	<5
Tallio (Tl) (mg/kg)	<0.01
Vanadio (V) (mg/kg)	<1
Zinco (Zn) (mg/kg)	11,7
Titanio (Ti) (mg/kg)	1,57
Europio (Eu) (mg/kg)	<0.5
Gadolinio (Gd) (mg/kg)	<0.5
Lantanio (La) (mg/kg)	<0.5
Terbio (Tb) (mg/kg)	<0.5

Table 3: Results of the organic screening tests (OUTPUT)

Name of the substance	CAS Number	Amount (mg/kg)	Theoretical migration amount (mg/kgfood)
Hydrocarbons	-	1063	57,402
trans-13-Docosenamide	10436-09-6	58,5	3,159
Tris(2,4-di-tert-butylphenyl)phosphate	95906-11-9	57,5	3,105
Tris(2,4-di-tert-butylphenyl) phosphate	95906-11-9	36,2	1,9548
Palmitic acid	57-10-3	28,1	1,5174
Phenol, 2,4-bis(1,1-dimethylethyl)-, phosphite (3:1)	31570-04-4	23,1	1,2474
phosphorous acid, tris(2,4-di-tert- butylphenyl)ester	31570-04-4	19,7	1,0638
Erucamide	112-84-5	17,1	0,9234
1-Octanol, 2-butyl-	-	13,2	0,7128
Stearic acid	57-11-4	11	0,594
1-Decanol, 2-methyl-	18675-24-6	7,96	0,42984
2,4-Di-tert-butylphenol	96-76-4	7,93	0,42822
N,N-bis(hydroxyethyl)tridecylamine	Ref 39090	7,13	0,38502
1-Decanol, 2-hexyl-	2425-77-6	6,9	0,3726
n-Hexadecanoic acid	57-10-3	6,14	0,33156
Octadecyl 3-(3,5-di-tert-butyl-4- hydroxyphenyl) propionate	2082-79-3	5,48	0,29592
Octadecanoic acid	57-11-4	5,33	0,28782
Pentadecylamine-N-hydroxyethyl-N-ethylpalmitate	Ref 1081	4,52	0,24408
N,N-bis(hydroxyethyl)pentadecylamine	Ref 39090	3,91	0,21114
1H-Imidazole, 4,5-dihydro-2-(phenylmethyl)-	59-98-3	3,61	0,19494
2-Propanol, 2-methyl-	75-65-0	3,61	0,19494
2-Decyl-1-tetradecanol	58670-89-6	3,24	0,17496
Tridecadecylamine-N-hydroxyethyl-N-ethylpalmitate	Ref 1081	3,15	0,1701
Heptadecylamine-N-hydroxyethyl-N-ethylpalmitate	Ref 1081	2,01	0,10854
3,5-Di-tert-butyl-4-hydroxybenzaldehyde	1620-98-0	1,95	0,1053
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, octadecyl ester	2082-79-3	1,89	0,10206
Unknown (MW: 579.54)	-	1,67	0,09018
Oleanitrile	112-91-4	1,54	0,08316
Pentaerythritol tetrakis[3-(3,5-di- tert-butyl-4-hydroxyphenyl)- propionate]	6683-19-8	1,42	0,07668
1-Stearoyl-rac-glycerol	123-94-4	1,34	0,07236
Unknown (m/z: 457; 472)	-	1,32	0,07128
N,N-Bis(2-hydroxyethyl)dodecamine	1541-67-9	1,24	0,06696
7,9-Di-tert-butyl-1-oxaspiro(4,5)deca-6,9-diene-2,8-dione	82304-66-3	1,07	0,05778
2,5-Cyclohexadiene-1,4-dione, 2,6-bis (1,1-dimethylethyl)-	719-22-2	1,02	0,05508
Behenamide	3061-75-4	0,98	0,05292
Octadecanoic acid, butyl ester	123-95-5	0,911	0,049194
Propane, 2-ethoxy-2-methyl-	637-92-3	0,548	0,029592
3,5-di-tert-Butyl-4-hydroxyacetophenone	14035-33-7	0,534	0,028836

Name of the substance	CAS Number	Amount (mg/kg)	Theoretical migration amount (mg/kgfood)
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, methyl ester	6386-38-5	0,431	0,023274
3-Hexen-2-one	763-93-9	0,275	0,01485
1-Hexanol, 2-ethyl-	104-76-7	0,24	0,01296
1-Butanol	71-36-3	0,128	0,006912
2-Pentanone	107-87-9	0,114	0,006156

Table 4: Results of the metals screening tests (OUTPUT)

Name of the substance	Amount (mg/kg)	Theoretical migration amount (mg/kgfood)
Alluminio (Al) (mg/kg)	16,7	1
Antimonio (Sb) (mg/kg)	<0.1	<0,04
Argento (Ag) (mg/kg)	<1	
Arsenico (As) (mg/kg)	<0.1	<0,01
Bario (Ba) (mg/kg)	<1	<1
Berillio (Be) (mg/kg)	<0.1	
Boro (B) (mg/kg)	<17	
Cadmio (Cd) (mg/kg)	<0.1	<0,002
Cobalto (Co) (mg/kg)	<1	<0,05
Cromo (Cr) (mg/kg)	<0.1	<0,01
Ferro (Fe) (mg/kg)	<10	<48
Litio (Li) (mg/kg)	<1	<0,6
Manganese (Mn) (mg/kg)	<1	<0,6
Mercurio (Hg) (mg/kg)	<0.05	<0,01
Molibdeno (Mo) (mg/kg)	<1	
Nichel (Ni) (mg/kg)	<0.1	<0,02
Piombo (Pb) (mg/kg)	<0.1	<0,01
Rame (Cu) (mg/kg)	<1	<5
Selenio (Se) (mg/kg)	<0.1	
Stagno (Sn) (mg/kg)	<0.2	
Stronzio (Sr) (mg/kg)	<5	
Tallio (Tl) (mg/kg)	<0.01	
Vanadio (V) (mg/kg)	<1	
Zinco (Zn) (mg/kg)	3,58	5
Titanio (Ti) (mg/kg)	<0.5	
Europio (Eu) (mg/kg)	<0.5	<0,05
Gadolinio (Gd) (mg/kg)	<0.5	<0,05
Lantanio (La) (mg/kg)	<0.5	<0,05
Terbio (Tb) (mg/kg)	<0.5	<0,05

Here below are report the 20 contaminants for INPUT and OUTPUT.

Table 5: Results of the 20 contaminants (INPUT)

Name of the substance	CAS Number	Amount (mg/kg)
Phenol, 2,4-bis(1,1-dimethylethyl)-, phosphite (3:1)	31570-04-4	708
trans-13-Docosenamide	10436-09-6	425
Tris(2,4-di-tert-butylphenyl) phosphate	95906-11-9	369
Tris(2,4-di-tert-butylphenyl)phosphate	95906-11-9	56,4
Palmitic acid	57-10-3	46,8
Erucamide	112-84-5	43,1
phosphorous acid, tris(2,4-di-tert- butylphenyl)ester	31570-04-4	40,9
Stearic acid	57-11-4	28,6
1-Octanol, 2-butyl-	3913-02-8	21,7
n-Hexadecanoic acid	57-10-3	17,6
Octadecanoic acid	57-11-4	13,3
Oleanitrile	112-91-4	12,6
cis-13,16-Docasadienoic acid	7370-49-2	12,5
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, octadecyl ester	2082-79-3	11,5
1-Decanol, 2-hexyl-	110225-00-8	10,5
Octadecyl 3-(3,5-di-tert-butyl-4- hydroxyphenyl)propionate	2082-79-3	10,1
cis-11-Eicosenamide	10436-08-5	9,06
2,4-Di-tert-butylphenol	96-76-4	8,85
13-Docosenamide, (Z)-	112-84-5	7,57
1-Decanol, 2-methyl-	18675-24-6	6,78
cis-15-tetracosenamide	-	5,09
Behenamide	3061-75-4	4,68

Table 6: Results of the 20 contaminants (OUTPUT)

Name of the substance	CAS Number	Amount (mg/kg)
trans-13-Docosenamide	10436-09-6	58,5
Tris(2,4-di-tert-butylphenyl)phosphate	95906-11-9	57,5
Tris(2,4-di-tert-butylphenyl) phosphate	95906-11-9	36,2
Palmitic acid	57-10-3	28,1
Phenol, 2,4-bis(1,1-dimethylethyl)-, phosphite (3:1)	31570-04-4	23,1
phosphorous acid, tris(2,4-di-tert- butylphenyl)ester	31570-04-4	19,7
Erucamide	112-84-5	17,1
1-Octanol, 2-butyl-	-	13,2
Stearic acid	57-11-4	11
1-Decanol, 2-methyl-	18675-24-6	7,96
2,4-Di-tert-butylphenol	96-76-4	7,93
N,N-bis(hydroxyethyl)tridecylamine	Ref 39090	7,13
1-Decanol, 2-hexyl-	2425-77-6	6,9
n-Hexadecanoic acid	57-10-3	6,14

Name of the substance	CAS Number	Amount (mg/kg)
Octadecyl 3-(3,5-di-tert-butyl-4- hydroxyphenyl)propionate	2082-79-3	5,48
Octadecanoic acid	57-11-4	5,33
Pentadecylamine-N-hydroxyethyl-N-ethylpalmitate	Ref 1081	4,52
N,N-bis(hydroxyethyl)pentadecylamine	Ref 39090	3,91
1H-Imidazole, 4,5-dihydro-2-(phenylmethyl)-	59-98-3	3,61
2-Propanol, 2-methyl-	75-65-0	3,61
2-Decyl-1-tetradecanol	58670-89-6	3,24
Tridecadecylamine-N-hydroxyethyl-N-ethylpalmitate	Ref 1081	3,15

Based on these considerations, and depending on the final intended use of the finished article, the compliance will be assessed in accordance with Regulation (EC) No. 1935/2004 (in particular Article 3), Regulation (EC) No. 2023/2006 (GMP), Regulation (EU) No. 10/2011 and Regulation (EU) No. 2022/1616 (if applicable).

4. DESCRIPTION OF TYPICAL RECYCLING PROCESS USING THE TECHNOLOGY (ART.10.3. D)

As already mentioned, the typical recycling process includes the following steps:

1. *Acceptance of Raw materials*: each incoming batch undergoes documentary verification and visual inspection
2. *Pre-treatment and Input* Raw materials undergo a preparatory phase
3. ***Extrusion and Decontamination*: Extrusion and decontamination of the polymer melt (Novel Technology based on A.D. Compound proprietary design)**
4. *Pelletizing and Storage*: the decontaminated polymer is cut into granules and stored
5. *Validation and Output*: Before commercial release a representative sample is sent to be tested for chemical compliance according to Reg.10/2011, Reg.10/2011, Reg.2022/1616 and Reg.1935/2004.

A scheme of the recycling process is shown in the Figure below... **CONFIDENTIAL INFORMATION.**

5. SUITABILITY OF THE RECYCLING TECHNOLOGY AND COMPLIANCE WITH THE RELEVANT PROVISIONS ON FOOD CONTACT MATERIALS AND ARTICLES

From the data provided in this document the following conclusions can be drawn:

- The recycling process and the novel technology thereof is capable to reduce the migration of potential contaminants from PP scrap to concentration levels which are in compliance with Article 3 of Regulation (EC) 1935/2004.
- The novel technology fulfils the requirements for the specific migration of the applied surrogates according to EU Regulation 10/2011.
- The investigated manufacturing process can fulfil the requirements of the GMP Regulation (EC) 2023/2006

6. DIFFERENCES FROM EXISTING TECHNOLOGIES (ART. 10.3.E)

The technology developed by AD Compound should be considered novel due to several distinguishing features compared to existing recycling processes.

Firstly, the process uses industrial scraps of polypropylene intended for food-contact applications that have never been in contact with food.

Secondly, the decontamination process is specifically designed for this type of material, using …**CONFIDENTIAL INFORMATION** remove potential contaminants while preserving the properties of the polypropylene. This process is tailored for food-contact PP, which is not a standard feature in most conventional mechanical recycling technologies.

Thirdly, both the designated suppliers and AD Compound operate under quality assurance systems certified by independent third parties, ensuring full traceability from the suppliers to the final pellets and compliance with GMP requirements under Regulation (EC) No 2023/2006.

Finally, the resulting rPP compounds are tailor-made, containing up to 50% recycled PP blended with virgin PP and food-contact additives or masterbatch according to specific client requirements, allowing their use in food-contact articles intended for short-term and repeated use.

The combination of these elements distinguishes this technology from existing recycling technologies and supports its classification as a novel recycling technology

7. SUMMARY OF EVALUATION CRITERIA (ART. 10.3.F)

As this notification concerns a novel recycling technology, AD Compound proposes the following criteria … **CONFIDENTIAL INFORMATION.**

These proposed criteria are intended to provide the authority with a basis for assessing the safety and suitability of processes using this novel recycling technology while allowing for additional guidance or requirements as deemed appropriate.

8. LIST OF DECONTAMINATION INSTALLATIONS (ART. 10.3.G)

AD Compound currently plans to operate a single decontamination facility located at its headquarters, Via Antonio Meucci, 2, 28066 Galliate NO, Italy.

Please refer to the previous chapter for the description of the challenge test performed on the TR5 decontamination unit.

ATTACHMENT 1: ECOL STUDIO RAW MATERIAL TEST REPORT

ATTACHMENT 2: ECOL STUDIO FINAL PRODUCT TEST REPORT

ATTACHMENT 3: ECOL STUDIO CHALLENGE TEST TEST REPORT